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A PAPER ON THE STATE OF MEDICAL SCIENCE IN
SOUTH AMERICA.

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MR. PRESIDENT:—

The various impressions made by the same subjects upon different individuals, is one of the most remarkable mental phenomena that we are called upon to contemplate.

This depends not upon differences of the external senses with which men see and hear, but upon peculiarities of the intellectual faculties. These faculties, like human features, are never precisely alike in any two individuals. Hence arises the diversity of opinion which we hear expressed upon the simplest subjects, particularly upon matters pertaining to medicine.

"The agitation of thought is the beginning of truth," and more appropriately than to any other profession, does this axiom apply to our own: out of it—out of free interchange of opinion, the advantages to be derived from our organization as a society are to come: and these advantages will be in proportion to the freedom and frequency of our discussions, and the liberality with which we contribute information that chances to be in our possessions.

Acting upon this impression, I have prepared the following rambling paper on the state of medical science in South America; and I propose, (if it is agreeable to the society,) at our next meeting, to make a few observations upon some of the diseases and climactic peculiarities which came under my notice during a somewhat extensive journey through various parts of that continent. Upon this subject, I do not hope to impart instruction to those already familiar with the institutions of South America, and their influence upon medical practice—but merely to present a fragmentary view—to show how the customs of the past and present are blended together, and how the practices of physicians are tinged with the prevailing superstitions of the people. Facts, however trivial, are never without value, and some that were novel to me may not be uninteresting. But if I assign to common places undue importance, the society will please pardon an error of judgment, and give my desultory lucubrations the considerations they deserve.

To copy the customs and habits of their predecessors is one of the prominent traits of every nation; and as we imitate the English in language, literature, science, and social habits, so the people of South America resemble those of Spain. To find a key to many of the prejudices and customs which impede the progress of medicine among the former, some of those of the mother country may be briefly alluded to. A native intolerance of character, and opposition to innovation; a superstitious reverence for, and inconsistent perversity in adhering to the practices of the past, (peculiarities which retard improvement and paralyze the spirit of invention,) are the proverbial characteristics of Spaniards in every part of the world. These national traits of the Spaniard have exerted a powerful influence upon the healing art—and in its practice they exhibit much of that recklessness of life and indifference to human suffering, (a kind of stoicism which is of oriental origin,) and which indicates the history of the art: both the medicine and surgery of Spain came from the east. The names of the most common medicines used in Spain, (which are purely Arabic,)—the poverty of the *Materia Medica*—enriched only by quack nostrums from Paris—the absence in schools and hospitals of improved mechanical and surgical appliances, and modern discovery—the want of originality in medical literature, and the study of Galen, Celsus, Hippocrates, Boerhaave—and ignorance of the *names* almost, as well as the works of Hunter, Harvey, Cooper, and others equally illustrious—are all facts confirmatory of what I have stated—that on the Peninsula, sanative science is indeed degraded—and that its professors contrast strongly with the profound and philosophic physicians of other European countries.

The practice of medicine, even to the present day, is considered degrading, much of it being in the hands of Jews, (who were formerly held in high estimation,) armies of medical impostors overrun the country, and few only of the most eminent professors, who are not of a low cast, are admitted into good society.

Clerical interference in the healing art, (which, by the way, is so constantly exerted among us, to promote quackery,) exists to a greater degree in Spain; and the clergy of the Romish church, are physicians' most active rivals.

The universities, being governed by ecclesiastics, once persuaded Philip III. to pass a law *prohibiting* any *new* system of medicine, and

requiring the study of Galen, Hippocrates, and Avicenna. So late, indeed, as 1830, priests, active in their opposition to innovation, frightened the timid Ferdinand into the belief that materialists, chartists, and revolutionists, were created by medical schools, and he forthwith shut up the lecture rooms.

It was, I believe, in 1845, that Pope Gregory issued three decrees: one to forbid railroads, another to prohibit scientific meetings, and a third to order all medical men to cease to attend invalids who had not sent for the priest and communicated after the third visit. In Spain the last requirement is invariably complied with.

Her standard of science, like "freedom's banner," streams backward against the wind. It is true that huckstering and abortive reforms, or rather, interferences of the government, occur from time to time, but no improvements are made. Ministerial decrees are issued periodically to prohibit physicians from prescribing, without a certificate from the *Fisico Mayor*, under a heavy penalty, hence the sick are compelled to employ empirical curanderos, who shorten the term of their sufferings, by the most approved modes of quackery.

There is no surer indication of a nation's character, or the state of morals or science, than *language*; and in Spain, the novelist, poet and dramatist, as well as the common people, by their frequent use of significant proverbs, show more clearly than history can, the deplorable condition into which the esculapian art has fallen. "The patients' tomb-stone," they say, "is indicated by the first feeling of the pulse." The mortality of the sick under medical treatment, is expressed by common people in a proverb which says: "They die like bugs." If the patient "suffers a recovery," they declare, "God works the cure, the doctor sacks the fee."

The efficacy of faith and the sanative influence of charms and relics, is religiously believed in, by physicians, as well as by priests and people; and the aid of saints more often invoked to cure the sick, than therapeutical agencies—miracles are more confidently relied upon in Spain than medicines.

It has been remarked by a facetious writer, that the scanty population of the Peninsula, may be accounted for by the state of obstetric science. Ignorant *comadres* usually preside over that department; and only in perilous cases, are the services of the (perhaps) more ignorant accoucheur required. The palladium of parturient

women, is the cinta or girdle of the virgin, (more wonderful than the fabled cestus of Venus,) and is resorted to and recommended by monks in difficult cases of childbirth. Not less ridiculous than conceits that the Chinese resort to (for their reputed property of procuring safe and easy delivery, and preserving the offspring in cases of dangerous parturition,) are those which still exist and form an important part of the knowledge of the Castillian obstetrician.

So little value is placed on the services of physicians, that fees are ridiculously small, one and two shillings being the equivalent for a professional visit. Recently we have been surprised by hearing of an individual, an entire stranger to the healing art, having received authority by a *royal decree*, to practice medicine. The types and press of Spain are agents ever active in advancing the interests of the impudent and mercenary impostors. All the bombast and extravagance of her hyperbolical language is energetically employed to commemorate their cures. One, with a plaster of mud or a powdered reptile, repels fever; another heals wounds and ulcers with a kiss; while a third—who has invented his own *Materia Medica*—has an infallible antidote for all the thousand “ills that flesh is heir to.” Once, a very Napoleon of empirics, having exhausted his usual resources in the vain attempt to cure a patient of dropsy, finally infected him with small-pox; he took the disease which spoiled his beauty, but cured the dropsy forever, and established the fame and fortune of the humbugging innovator. Greater triumphs of quackery than this might be recorded. The knaves who practice these frauds, do not accomplish their object with the characteristic ingenuity of impostors, but without the mask of candor, or the semblance of plausibility; boldly confounding all opinion, and denying all facts, they deride science, complacently smile at the duplicity of their plundered victims, and pursue their vocation of murder without mercy.

From all this it will be seen that Spain is the very paradise of quacks, that the success of empiricism is always in proportion to its absurdity. Physicians and priests unite in keeping the people in profound ignorance of all that relates to medicine, and under the mask of mystery, rival the uneducated charlatan, in the practice of the most disgraceful imposture. Still, as in the time of Cervantes, Dr. Sangrado is a fair representative of the profession. The dark age of medicine has not yet passed away from that once classic land.

The mighty tide of science seem to have flown on, and left her far behind other civilized countries, in all, at least, that pertains to the noble art of restoring health. While England boasts her perfection in practical medicine; France, her pre-eminence in Pathology. and Pharmaceutical Chemistry; and Germany her advances in Physiology and Anatomy, Spain exhibits only the cheerless prospect of a nation, every department of whose medical science remains stationary or is absolutely retrograding. This may be inferred from the fact that her medical literature is the most barren in Europe; that whilst in almost every country on the continent, and in the United States, the advance of medical and surgical science has been marked by a bright array of illustrious men, almost none have appeared in Spain. Except Argumosa, de Toca and Hysem, she has given us no remembered names. Even those of acknowledged celebrity are almost unknown beyond the frontiers of their native country; and the few authors whose works are pervaded by a spirit of philosophical research, and who possess a large share of industry and patient investigation,—even these exhibit minds like Enceladus beneath *Ætna*—encumbered with mountains of folly and mysticism. Vain and fantastic superstitions mingle like foul weeds with the bright waters of their philosophy, and monstrous hypotheses follow the track of all their discoveries: indeed Spanish barbarism has freighted the stream of centuries, and by the study of her so called science, we only obtain a glimpse back into the blackness of the unilluminated past.

May we not trust that ere long a change will be wrought, and that interesting country—rescued from the barbarism that now broods over it—will regain a position in science worthy an empire once the mightiest in Europe? It is, however, impossible to break through long established customs, and a difficult task to instruct an ignorant and superstitious people, in the laws of health or in approved modes for the cure of disease. The unenlightened ever cling to falsehood rather than to truth. It is natural for human nature to prefer error that comes from man, to truth, that descends from God.

The state of medicine in Spain, being such as I have imperfectly sketched, it is evident that similar causes produce like results in the Spanish colonies, out of which sprang the so-called Republics of South America. Besides indolence and effeminacy, which are the reigning characteristics of the higher, and ignorance and supersti-

tion of the lower classes of the South American States, the semi-barbarism of the Indian population, (many of whom retain the customs of their heathen ancestors,) exerts an influence upon the character; while bad government and a corrupt church despotism, cement the masses into one common chaos of the most degraded servitude and intellectual apathy. Added to hereditary influences of education, an intolerant church, and political oppression, still other circumstances have interposed obstacles to the progress of medical and surgical science.

Involving too many cares, vigils, and humble offices to suit the haughty pride, and indolent disposition of the Spaniard, the practice of medicine is to a great extent exercised by descendants of Indians, and by mulattoes, whose imperfect education and want of success impairs confidence, and brings discredit and disgrace on the profession.

The climate too, (much of that of South America being mild and enervating,) which so sensibly affects the moral, as well as the physical character—retards the development of masculine qualities of mind, and makes nations like individuals, effeminate and credulous—climate is another omniprevalent influence, having direct relation to the subject I am considering.

Over such a people, priests gain an easy conquest, and impose upon them the same mummeries that rapacious monks practiced in the middle ages.

Fees, as in Spain, are very insignificant, a few reals only being paid the physician for each visit. Medical men are prohibited from practicing, who have not received license from the Board of the *Proto Medico*. The ostensible object of this law is the protection of physicians in the practice of their profession, and of the public from imposture: its true object is the monopoly of medical practice. There are in the laws of every Spanish country, absurdities which seem only to indicate the folly of law-makers, and demonstrate the weakness and imbecility of the human mind. This law, the practical operations of which is to foster ignorance and imposture, and to bar the doors against the ingress of competitors furnishes a fair example. Like the physicians of ancient Egypt—who were compelled by law to obey the mandates of their medical code—the gentlemen who compose this body, follow with servile exactness the methods of practice recommended by authors, whose works are found with us, only in

the dusty collections of antiquaries—and they expect the foreign physician who is a candidate for their favor, to do the same. If, indeed, at the examination to which he is subjected, he exhibits any knowledge of modern science, and is not familiar with the medicine of Galen, and the surgery of Albucasis and Ambrose Paré—as well as with the local fooleries that degrade their own practice—he is rejected by the Board, and prosecuted by the authorities, if he prescribe—and so also is the apothecary who makes up his prescriptions. These restrictions upon legitimate practice, impairs confidence in physicians, the sick are accordingly preyed upon by swarms of curanderos, whose frauds triumph over the people's fears, and at last it becomes a kind of instinct with them not only to tolerate quackery, but to love and cherish it.

These are some of the circumstances which will, I think, explain the degraded condition of medicine, and account for the perpetuation of errors, abuses and corruptions which have marked its practice, from remote times in Spain, to the present day in her ancient possessions on this continent—and will, at the same time, give some notion of South American character.

Free ourselves from church despotism, accustomed to ceaseless activity and change, and daily witnessing novelties in social life, and in the arts and sciences—we cannot easily understand their torpid and stationary existence. As I have before remarked, priestcraft and the practice of medicine are there united, and account for the difference. To illustrate this further. When epidemics prevail, saints are supplicated for relief—prayers and contributions to the church being deemed more efficacious than pills, or the counsel of physicians—and maladies irremediable by their holy skill are given over as too desperate for cure. Conveyance of the sick to places consecrated by a miracle, or where the bones of a defunct saint are deposited, for the cure of certain diseases, is still a common practice. Men and women, intelligent upon other subjects, are so ignorant in all that relates to physic, that many of them do not know the names even of the most common remedies. Some (having borrowed the belief from the Indians,) deny the existence of diseases, as such, and when suffering pain, believe that an unknown and malicious enemy has cast a spell upon them, and resort to priests and magicians to discover the guilty persons. Reputed sorcerers are numerous, and (as among the Russian peasants) they supply the place of

physicians. We are told by Zimmerman, that in Chili physicians blow around the beds of their patients to drive away disease, and as the people in that country believe that physic, as well as disease, consists wholly in the mind, their doctors would take it ill of any person who would attempt to make the matter more difficult; they think they know enough when they know *how to blow*.

So greatly do they fear *air*, that I have seen a woman, having hemorrhage after delivery, refuse to be uncovered, and nearly flood to death under a pile of blankets. In uterine hemorrhage, there is however, a practice common among the people on the eastern side of the Andes, which seems to me an excellent one; it is to introduce a newly pared lime, or lemon, into the uterus, as an hæmastatic. So destitute are the inhabitants of some districts of medical resources, that many of the means adopted in the earliest times, for the relief of pain, are still resorted to: thus, instead of hot fomentations to the abdomen, the warm intestines of recently slaughtered animals are applied.

Some centuries ago, a Dr. Butler of Cambridge, ordered a cow to be killed, and his patient to be placed in the warm carcase; this is still a common practice in the pampa regions of South America, and baths of blood are there almost as frequently used to cure fever as Peruvian bark. The "oil of earth-worms" is another remedy used for many diseases, (for almost as many as the cod liver oil is given) and is found in every Boica throughout the continent. This was the grand catholicon of Campillo, one of the high priests of empiricism in Spain.

Not wiser than *Cato*, the censor, (who has favored us with an incantation for the reduction of a dislocated limb) the semi-barbarians of the Buenos Ayrean pampas, as well as the aborigines of Peru, believe in spells, witchcraft and amulets, and wear a bean at the temples—or sometimes an oval patch—as a charm against disease; some very intelligent persons profess to have cured nervous diseases by placing a gold chain upon the neck or limbs of the patient. Galen tells us of an Egyptian king, who believed that a green jasper cut in the form of a dragon, and applied externally, would strengthen the stomach and digestive organs. In some parts of South America there is found a species of jasper to which the Spaniards have given the name of "*Piedra de la Hydra*," and use it for curing colic by applying it to the navel.

The umbilical cord of a child is supposed to be efficacious in many diseases of children; and the skull of the *great beast*, (as they call the *Tapirus Americanus*) is used as a remedy against *Gutta Rosea*, and its claws against epilepsy. For head-aches and blindness, they suppose the teeth of poisonous serpents are specifics.

As a curious example of resemblance between the science of the Indians, and one of the absurd and preposterous hypotheses which disgrace the annals of ancient medicine, (I refer to that which has been called the "Doctrine of signatures") there are some tribes who believe that water drank from the hyoid bone of the howling monkey cures asthma.

The use of electric eels for paralytic affections, is another example of similarity in practice. Galen and others tell us that torpedoes cure gout and headache: they are still used for these purposes near the Atlantic coasts. Hippocrates, we recollect, recommends the roasted flesh of electric eels for dropsies that follow Hepatic diseases. It was reference to their employment in South America, that Gotte, a surgeon of Holland, wrote a treatise "On the medical properties of the *Gymnotus*."

For the more common maladies, either old women or Herbalists are consulted. The latter traverse the continent with collections of medicines from the mountains and forests, which they sell at high prices, and at the same time prescribe for the sick. Roots and balsams are their most common remedies.

Besides bark, *Ipecacuanha*, and the root of a plant belonging to the family of the *Euphorbia*—whose drastic and emetical effect is similar to that of the tartarized antimony—they possess many medicinal plants not found in our *Materia Medica*.

The *Ratanhia* is a remedy which the Indians have employed from the remotest times, for hemorrhage of the lungs and dysentery.

The southern provinces of Peru have long supplied Europe with this article.

The boldest of these itinerant physicians, sometimes practice blood-letting, and generally in the vicinity of the diseased part. Their mode of cupping is exceedingly primitive. The razor is used for a scarificator, and the horns of cattle for cups.

The more civilized *cirujanos* of the cities—like the old Spaniards—regard *leeches* as the saviors of the human race.

Other surgical operations are almost unknown; chirurgical science,

(I mean, of course, among people remote from the capital) is in as rude a state as it was before the conquest by Pizarro.

There are three remedies which are invariably used in all diseases: the Aqua Malvas, Jarabe de Goma, and Cataplasmas de Ginaza. These are domestic remedies, but physicians approve and constantly employ them, even in the treatment of the gravest disorders.

This will serve to illustrate the state of Therapeutics, and the following facts will show the state of practical medicine.

Diseases of the heart of every kind—even ordinary palpitation consequent upon gastric derangements, and venereal excesses—are denominated *anurisas*, and pronounced *incurable*.

Either ignorant of the Stethoscope, or unable to appreciate its eloquent teachings, the South American physician blunders sadly in the diagnosis of all thoracic diseases. In the treatment of these disorders, *Digitalis* is the sovereign remedy, and so familiar are even the most ignorant with its use, that if a physician adds it to a prescription, to answer an especial indication, he is told, "I've taken that, it did me no good, and I'll take no more."

Under the designation of tumors (or bultas) the Esculapian sages confound the various diseases of the abdominal viscera in which there is enlargement or induration. These errors of diagnosis depend upon carelessness, inadvertency, and an extremely limited degree of anatomical knowledge, never upon mistaken delicacy in the use of inspection, or manual examination, for unfortunate patients suffer martyrdom at every visit of the physician.

"*Incurable*," is the invariable reply made to the patient's inquiry as to whether he can recover—and this too, without reference to the site, size, form, consistency, connexion, or degree of sensibility. Whether the tumor is fluid or solid—whether pulsative or not—whether fixed or moveable, makes no difference in the doctor's prognosis. Indurated spleens, and hypertrophied livers—ovarian disease and enlarged mesenteric glands, are confounded and condemned to death. Even the prominent bellies of recti muscles, and masses of indurated feces in the colon—mistaken for morbid growths—are not spared. The diagnosis of these diseases is, in short, as imperfect and uncertain as that of thoracic maladies were when Cullen wrote; and their treatment as empirical and barbarous, as the practitioner's ignorance is profound and pitiable.

This professional stupidity is equalled only by popular prejudice

and superstition. Thus, intelligent people when sick, even while employing a physician, seek for other aid, and swallow the ready-made prescriptions (stolen from various Pharmacopœis) of half educated amateur empirics, who, like unskilful archers, with well filled quivers, probably forget that by shooting in the dark, they not only miss the disease, but may destroy their friend.

A physician is often in attendance upon a patient without being aware that another is visiting the same case at the same time; in numbers they think there is safety. Strange, and almost incredible as these things may appear to those not initiated in the mysteries of South American etiquette, they are nevertheless of frequent occurrence. Popular opinion—anticipating Brown's exciting and debilitating—or sthenic and asthenic system, divides all medicines into hot and cold.

Hepatic disease is the grand pathological bugbear that eternally alarms the imagination of the South American. To it they make their therapeutical system conform. When angry—that is, when their bile is excited—they will not take cold water, believing it produces a bad effect upon the liver, and by chilling and contracting that important viscus, that it arrests the flow of bile and ends in fatal congestions. Most of the foreign medicines used are those which profess to be infallible remedies *for bile*—and they are numerous—for though Chileans and Peruvians prefer generally their own herbs and balsams, they do not eschew the compounds of more civilized nations. Hence, Brandreth pills, and numerous panaceas are bought and swallowed by the unconquerable Aurocano, on the banks of the Bio-Bio; and in the ancient capital of the Incas, among the descendants of the “Children of the Sun,” a ready market is found for modern quack nostrums. Not only do North American, French and English medicines abound, but native nuisances, in the form of physic, obtrude themselves like the frogs of Egypt, into almost every family. Thus we find that in the confidence they have in quackery—in assigning incredible virtues to inert substances—in their belief in everything that is involved in mystery—and in the employment of prepostorous agents—supposing them to possess medicinal properties—the people whose medicinal character I have attempted to sketch, merely resemble more enlightened nations, and commit follies of which, with all the splendid views of modern science, we are ourselves guilty. When the practice

of a Thompson is *patented* by the United States Government, and another system (stolen probably from the practice of Celsus—who treated dropsy by throwing his patient into a pond of water) a system which has been refined by modern ingenuity into absurdity, that eclipses all the barbaric superstitions of the past, is encouraged in the most enlightened communities of America and Europe—when these things, I say, occur in nations whose progress in the arts and science is their proudest boast—ought we to wonder at the absurdities practiced by the semi-savages of South America?

So greatly does *climate* depend upon the physical character of a country, that geographical description is a necessary preliminary to the proper elucidation of its changes and influence in the production of disease: at present, however, I shall attempt neither a description of one, nor a detail of the other, but merely remark that the climate of South America varies greatly even in contiguous provinces.

In the southern parts of the continent, (west of the Andes) rain falls every month in the year, and often for forty days consecutively. To the north of these humid and forest covered countries, vast arid plains, more calcined than the deserts of Africa, stretch away for hundreds of miles along the coasts, south of the equator, to the foot of the Cordilleras.

These are occasionally scooped from the sea to the mountains, by broad ravines; and along the course of rapid streams, wide marshes and alluvial meadows, spread a surface exhaling effluvia which generate deadly disease.

Still farther east, the double chain of Cordillera—over which winter holds perpetual sway—separates the Pacific slope from the primeval forest regions, through whose dreary wildernesses the thousand tributaries of the mighty Amazon flow along the magnificent centre basin, to empty into the remote Atlantic. The climate of this vast territory—surpassing greatly the entire extent of Europe—embracing the loftiest mountain ranges, the vastest pampas, and most extensive forests in the world—and containing the Fauna and Flora of every zone—is of course, as various as its general features are multifarious and interesting.

In the people occupying the warm and moist regions, obesity and laxity of frames is observed, and contrasts strongly with the hardier activity and healthfulness of the inhabitants of higher, cooler locali-

ties: and their diseases are as dissimilar as their physical and moral constitutions are various. Acute diseases are uncommon, they are indeed, almost impossible among a people whose reigning passion is indolence, whose highest happiness is idleness, and whose severest dissipation is sleep. The listless denizens of South American capitals, suffer, therefore, from nervous, neuralgic, hysteric, and dyspeptic diseases, as well as those arising from sensuality, besides numerous masked and shadowy maladies, the offspring of languor and *ennui*. While severe sthenic complaints, rapid in their course, and destructive to life, are common among the thinly populated regions of the wintry and barren Andes.

Again, in the elevated pampa districts, where the eye wanders over vast level deserts to the horizon, or to the snowy summit of remote Sierras, disease of a character different from that of other parts prevails, modified by dryness and rarefaction of the atmosphere, through which frozen winds sweep, from icy eminences, and chill the incautious traveller, especially if he be a tenant of the tropical vallies.

Public and private Hygiene, in South America is sadly neglected. In some, (as Lima,) buzzards, like the half famished dogs of some European cities, are the only scavengers. Nuisances the most offensive and deleterious to health abound. Ventilation is neglected, and the abodes of the rich and poor, are often alike dark and damp. Contrary to general belief, the climate of the capital of Peru, though agreeable, is extremely insalubrious. The great humidity, predisposes to many diseases. Fever and dysentery are common. The latter is sometimes epidemic, and its victims are numerous. Of the intermittent variety, which is severe throughout Peru, a large proportion of the city suffer. Some statistics which I have examined show that as many as 50 per cent. of the entire population have suffered from illness in a single season, 19 per cent. of whom died, and that too, when there has not been any prevailing epidemic. The gradually decreasing population shows the same thing. The census of 1836, gave 52,680, which is nearly 20,000 less than the city contained in 1820.

A part of this decrease, depends upon other causes, however, than disease—as the physical character and political character, of the country—causes which do not come within the scope of this paper to notice. The average number of deaths exceeds 3000. Criminal

abortion is more frequent than in any other city in South America, a fact which might be inferred from the acknowledged licentiousness which prevails. A passionate fondness for perfumes which with the ladies of Lima, rivals their love of display, is a prolific source of headache, and other nervous disorders. Gormandism is another crime common in Lima, and one which carries with it its own penalty.

It is remarked by a correspondent in Peru, to Dr. Dunglinson, that the climate of Lima is admirably adapted to Phthisis patients, while that of Chili is *not*. Now this is a mistake, (though I have heard it also so asserted by persons residing there) and arises, I believe from an error in diagnosis: *Chronic Bronchitis*, being mistaken for *Pulmonary Tuberculosis*, which disease is never benefitted (as abundant experience has proved) by removal to the warm and moist climate of the southern portion of the United States, or the West Indian Islands—but has been aggravated, and a fatal end hastened by the change. In such a climate, the humid atmosphere, and excessive heat, by promoting perspiration, diminishing the amount of ingesta, and reducing the strength, would promote secretion and expectoration, relieve the congested mucus membrane and thus benefit the bronchial disease, while the same causes would facilitate the softening of tubercles, and hasten death in phthisis.

In regard to the climate of Chili, there is no country in the world more remarkable for the dryness of its atmosphere—indeed, those who do not know that perspiration passes off insensibly, say that in Chili persons never sweat. It was so asserted, some years ago, by an intelligent German traveller, and is often repeated by the natives. This peculiarity of the climate of Chili, and the humidity of the Pacific side of the Andes north of the desert of Atacama—a peculiarity also equally remarkable in the inland forest regions, very materially modifies the operation of two extensive classes of remedies, viz., Diaphoretics and Diuretics, and illustrates the importance of designating (as Hippocrates did) the place in which opinions are written, before we accept or reject them.

In regard to the maladies, to which I propose making some allusion, the first in importance is Intermittent Fever. This is the most widespread disease of South America, and in relation to its etiology, the most interesting. Extending over the greater part of the continent, it is found from the equator to the frontiers of Patagonia, and

from the steaming vallies of the Pacific coasts in Peru, to the elevated plains of the middle Cordillera, down to the forests of Bolivia and Brazil, and makes almost uninhabitable some of the eastern coasts of the continent which are washed by the waters of the Atlantic.

Like the malarious diseases (as they are called) in our own Western and Middle states, it manifests itself in the ordinary Fever and Ague, or like the mild summer and autumnal epidemics in some places, while in others, it assumes a malignant remittent type—the well known scourge of tropical climates—and destroys life, or leaves patients sallow, emaciated, and almost invariably with hypertrophied spleens.

The effect of this subtle poison, upon the indigenous inhabitants of malarious districts, is too well known to need even a word in this place. In South America, as elsewhere, it makes very Edens deserts, and degrades their scanty denizens into mere vegetative beings, subject to all the forms of disease which follow in the train of malaria, and reduces them often to absolute idiotism. Like the capital of Brazil, where fevers were formerly unknown, the city of Lima has been recently visited by a severe epidemic of Bilious Remittent fever, of the congestive form, which was highly malignant, and destructive of life. In consequence of its being so alarmingly fatal, the natives call it the “Peste.”

From what I have learned of its symptoms, course, and sudden fatality, it is what, in the northern portion of the United States, is called the “Cold Plague.”

The *Yellow Fever* it certainly *is not*, being never attended by “the real *black vomit*,” by which I mean blood altered by its passage through the villous coat. Again, I have never heard of its being so *insidious* as the genuine Yellow Fever, nor is it marked by “the integrity of the mental faculties,” which Boisseau thinks invariable in the genuine disease. In regard to the *cause* of this disease—this is not, of course, the place to discuss it.

The strength of all arguments upon a scientific question, lies in facts, and, presuming none, however trivial, that relate to the causation of periodic fevers, can be wholly devoid of interest, I may mention some that struck me in passing. The *facts* I am going to notice are not *new*, but merely corroborative of what has been observed elsewhere. They all go to show that the old theory of the causation of periodic fevers, by marsh air, or by vegetable and

animal remains, is wholly without foundation in truth. I have seen diseases—supposed to be malarious—upon the borders of the desert of Atocama, where there is almost no trace of vegetation, as well as in loftier regions, where the low temperature would render the conditions usually supposed to be necessary to produce fever, *impossible*. Fordyce refers to a part of Peru, as being rendered almost uninhabitable by fevers and dysenteries, where there is an almost total want of water and vegetation. In the vallies of Santa Crux and Misqui, in Bolivia, fevers are referred to luxuriant crops of *Capsicum*, or some vegetable growth accompanying it. This is a popular corroboration of the opinion expressed by Dr. Robert Jackson, “that fevers are caused by an emanation from living vegetables, through the exuberance of organic life—the excess of vital vegetable action.” In some of the vallies of Peru, where these diseases are fatally prevalent, a heavy fall of rain is supposed to increase their severity. This corresponds with the fact, that “in Africa the greatest mortality is during the rains.”

There are places, such as sandy plains, parched and unproductive, which are pestiferous with fevers, entirely free from the supposed causes of malaria; and others remarkably *salubrious*,” where wide marshes and lagoons smoke under a burning sun, and vegetable and insect life (unsurpassed for variety and luxuriance) go rapidly through their transitions and decay in the hot and stagnant air of tropic summers. Such are some of the facts which prove, I think, that we are mistaken in what consists the symbols of a sickly climate; and that fevers of great intensity are common in localities where all the sensible conditions testify to the healthfulness of the climate. There are other facts, interesting in many points of view, which, perhaps merely add new difficulties to this puzzling department of medical inquiry that might be alluded to, but there is not time. Certain it is, that a false theory may survive if it be believed, but if known to be false, must be speedily overthrown. It is to be hoped the time is not far distant, when the profession will have arrived at definite opinions upon this question, and be no longer satisfied with vague and meaningless words about a mysterious something, supposed to be malarious, or an occult quality in the atmosphere of sickly situations, to account for some of the most interesting phenomena, in the production of disease, that we are called upon to study.

Already Mitchell, Cowdell, and a few, perhaps, of the Germans, have advanced opinions, and presented an array of facts, which will do much towards settling this mooted question in etiological science.

I would mention in passing, that the natives of the Peruvian forest regions prefer the *green bark*, of which they make infusions—supposing them to be more efficacious than the dry. Smaller doses cures: they also take it as a prophylactic against the fever.

Upon other local items of interest connected with this wide spread disease, enough might be written to fill a volume; but all the superstitious prejudices of South Americans, upon this subject—and they are numerous—are rational compared to the shallow nonsense (unhappily believed by many) that has been recently taught by a one-ideal M. D., whose name I have forgotten—that supposes all diseases—Squint, Stone, Apoplexy, and even Love—are *ague fits*.

It would seem from medical history, that periods of the greatest enlightenment, and countries farthest removed from barbarism, are most fertile in monstrous absurdity.

Another interesting disease, much of which came under my notice, is Goitre. It is called by the natives of districts where it abounds, the “Papás,” and sometimes grows to an enormous size, extending completely around the throat, like an inflated life-preserver.

The lower animals, as well as man, are sometimes affected, small Goiterous tumors having been found in foetal calves. In connection with this disease, in the lower animals, an Entozoon is often found, which introduces itself between the cutaneous and sub-cutaneous areolar tissue, and produces large malignant tumors and death. With respect to Bronchocele, as of most other diseases, it is more easy to say what is *not* than what *is* its cause—so many conflicting opinions obscure its etiology.

It was Saunders, I believe, who first opposed the opinion that it was caused by the use of snow-water. I have seen it in places where such water was *never* used. It is true, however, that in localities where it is used, the lower classes, who drink that of an impure quality, are more subject to this disease than those who correct its impurities by filtering.

The only place in South America where I have seen Cretinism, accompanying bronchocele, is in Jujui, in Bolivia, a town beautifully situated, remote from the mountains, and having none of the conditions, neither of situation nor other local circumstances—usually

supposed to operate as causes of these diseases in Switzerland and other infected localities. It is not, therefore, probable that goitre is engendered by other causes—that it depends, neither upon the Hydrology, the Geology, nor the Climatology of localities in which it is endemic? There is a substance which abounds in both kingdoms of nature, that is contained in almost all natural bodies, and is always found where goitre prevails—I refer to *Iodine*. This agent acts, we are told by Pereira, “sometimes without any perceptible alteration in the functions of the body.” Lugol asserts that “it encourages growth and increase of size”—that it stimulates the lymphatic glands, is an universal opinion; and abundant experience has shown that extremely minute doses (especially when there is an idiosyncratic susceptibility) are sufficient to affect the system.

I have already remarked Iodine is found in the inorganized, as well as in the organized kingdoms, in every country where Goitre is known. Mineral springs upon the sides of the Andes, and among the Alps, and many vegetables, indigenous to Goiterous countries, contain it. Dr. Smith has shown that it abounds in fresh water plants; and Chatin, of the school of Pharmacy, of Paris, in a paper read before the Academy of Sciences, stated that in the course of investigations upon this subject, he found Iodine in Horse-radish and other Tetradynamia. It also enters largely into the families of Algæ and Fungi, which are used as food and medicine, some of the latter having considerable reputation in South America as remedies in this disease.

The source of the Iodine in the Goiterous regions of South America, is the superficial saline deposits found in vast crusts on either side of the Andes—deposits which are, of course, of marine origin. The waters of most of the streams east of the mountains, in the Argentine republic, flowing along the pampas, are brackish and saline.

The success of Iodine in the cure of Goitre, has led us to infer that it is a sovereign remedy—if not a specific.

Now if it effects the thyroid gland as a *curative*, may it not also act as a morbid agent? If, as we know is the case, Iodine operates as a stimulant to the glandular system, may it not produce the diseased condition that it sometimes cures? Atrophy of the mammæ and testes are not unusual effects of this agent. May not Hypertrophy and Atrophy, though contrasting, in some respects, so strongly with each other, both be the result of *stimulation*, and increase or

wasting be the effect of the same agent? To stimulate nutrition is to produce Hypertrophy. To stimulate absorption, is to cause Atrophy. Is not this the simple and true explanation of the apparently contradictory operation of this agent upon the animal economy? These are interesting queries—and I may be allowed to express the hope, that they will be more fully discussed by members of the society more capable than myself.

The direction, it appears to me, that inquiry ought to take, is with respect to the function of the Thyroid gland—for Pathology and Therapeutics, as well as Etiological science, have their basis in correct Physiology. Whether the belief I have expressed be correct or not, cannot at present be shown. Theories may be untrue, therefore valueless; but the facts on which they rest ought to be remembered.

No subject has attracted more the attention of medical men, than Small-pox: and the following circumstances connected with that disease in Peru and Chili, are curious, and throw some doubt upon the history of its introduction into the new world.

The era assigned by Robertson, to its first appearance on this continent, is 1517, twenty-five years after its discovery. In a work by Montesinos, entitled “Peruvian Annals,” reference is made to a malignant contagious disease, which desolated Peru, and numbered among its victims the celebrated Inca King Capac Yupanqui. The period of his death (if this author’s chronology is correct) was about a century after Christ—an epoch when Peru had reached her highest elevation and extent: and the disease is said by Montesinos’ translators to have been Small-pox. In the sacred and historical records and in the traditions of the ancient Peruvians, as well as in those of the nations in the southern portion of the continent, we find abundant proofs that Small-pox existed there many centuries antecedent to the conquest.

Molina, in his “History of Chili,” speaks of its having been introduced into Mouli, where it was fearfully destructive of life.

It seems to be peculiarly fatal to the Indian race, we recollect the destruction of the Mandans, a powerful tribe of Upper Missouri, and I have heard it remarked that it is also generally fatal to the Polonysian. Cow’s milk is said to have been used by the *Aurocanos*, to cure small-pox; and it is a singular coincidence that about the year 1779, milk was recommended in Paris, by M. Lassoné, for the same purpose.

When an Indian dies of this disease, his hut is burned; a custom which also prevails among the *Abyssinians*.

In the province of Tarija, on the southern frontier of Bolivia, there prevails that rare form of scaly cutaneous disease known to us as Lepra. It is there believed to be contagious, and an asylum, similar to the *lazar-houses* which were once established over Europe for lepers, is set apart for the subjects of this disease; and, as in Scriptural times, the unaffected shrink with disgust from its inmates, who are left to die or recover, as chance or Providence pleases.

There are also found in various parts of *South America*, other peculiar cutaneous affections. Of these, the Verugas is one of the gravest. It is attended by sore throat, deep seated pains and fever, which is followed by a peculiar eruption. Abscesses or tumors then form, and from them, hæmorrhage—often so great as to destroy life, or to leave the patient exhausted and disposed to Phthisis—occurs. This disease is said to be caused by the use of certain waters, which affect the lower animals, as well as man. The Indians treat it by giving an infusion of a plant called Huajra, which operates simply as a sudorific, and is of very doubtful efficacy. Stimulants are necessary, and removal of the large hæmorrhagic tumors by operation. Keeping the wound open, to promote suppuration, is recommended by Tschudi. Another disease said to be peculiar to Peru, having some features in common with Cancer, and which is even more fatal than the Verugas, is the Uta. The Sarma, a kind of Eczema, which produces scabs, and leaves purple blotches, resembling but having no connection with Syphilis, is another example of the local diseases, which prevail in Peru.

It is remarkable that some races suffer from one, some only from another of these baneful scourges; and it is equally strange that almost every valley and district has its peculiar disease; they depend, doubtless, upon some unknown quality of the climate.

It is not unusual to find as sequelæ to these diseases, serious lesions, sometimes in the form of indolent ulcers, upon the lower extremities, which have not, however, any of the characters of the original disease.

As to treatment—the great difficulty to be encountered is the over-officiousness of friends, whether old women, quacks or physicians—then, instead of attempting to cure the disease, or its consequences, by name, as many do, careful inquiry into the peculiarity

of the place in which the disease was contracted, and the exhibition of remedies appropriate to the symptoms, will be the best that can be done for the patient.

The native practice is, to pursue old womanish routinism, as though one ointment, lotion, plaster or poultice, were a panacea to be employed in all cases indiscriminately. Indeed, the fatal termination of severe and malignant diseases is often hastened and the patient's sufferings increased a thousand fold, by the application of numerous substances, which, in the very nature of things, can have no other than a harmful effect. The sick, however, are proverbially credulous; accordingly, armies of empirical knight-errants, who are ever ready to enter the lists against science and common sense, spread themselves over the land, and besides keeping down the excess of population, they pamper the cherished prejudices of the vulgar. But to return. The right understanding of these diseases, as indeed of all others, is in one sense half their cure; to consider this subject in detail, would, however, exceed the limits of my paper, and I must pass on.

The *Veta*, or (as it is called in various localities) *Puna* and *Soroche*, that distressing complaint caused by rarefaction of the atmosphere, in the elevated regions of the Andes, has a curious feature or two, which I may be permitted to mention. It is attended by violent headache, with fulness of the superficial veins, difficult respiration and coldness of the extremities; often epistaxis and even hemoptysis are produced by it. The attack usually comes on, *not* at the point of greatest elevation, but below, and often when making the *descent* of a mountain. Bloodletting is often necessary to give relief. The natives use garlic, crushed, and in bolus, for themselves and animals, both as a preventive and during the attack. The opinion prevalent among the learned from the remotest times, that atmospheric air becomes vitiated by gathering poisonous qualities from mineral exhalations, is still popular in South America. One of the synonyms of this condition, the *veta* or *vein*, is derived from the belief that it is caused by metallic veins, diffusing around a poisonous infection; many suppose the noxious metal to be Antimony. Why these distressing symptoms are less felt at the greater elevation, than when making the *descent*, or why *Allium* relieves them, I do not know.

There are other interesting points touching the diseases, and

means resorted to for cure, in South America, both curious and instructive, that might be briefly alluded to, were there time, but my paper is already sufficiently lengthy. If the patience of the Society will permit me to mention an interesting osteological anomaly found in the Peruvian races, I shall have done. According to recent observations made by Tschudi and Rivers, three distinct races dwelt in Peru, before the foundation of the kingdom of the Incas.

The cranial configuration of these natives, (called the Chinchas, Aymaraes and Huancas) is so distinct as to have enabled those gentlemen to assign each its geographical locality. In them all is found the anomaly (which is a distinct inter-parietal bone) that I have alluded to.

This bone, as its name indicates, will be found, says Tschudi, "placed between the two parietals, and having a form more or less triangular, whose sharpest angle is above, and is bounded by the posterior edges of the parietal bones, while its base attaches itself to the occipital bone by a suture which runs from the angle of the union of the temporal with the occipital, a little above the semicircular line, to the similar angle on the opposite side. It follows that this inter-parietal bone occupies precisely that part of the occiput which in other crania is occupied by the upper portion of the occipital, and which is connected with the parietals by the lambdoidal suture." After a year, union with the occipital is not completely affected, except in the middle, and a furrow shows a trace of the suture, which is not obliterated even at the most advanced age, and may be easily recognized in *all* the crania of *all* these races. I have examined many Peruvian skulls, taken from ancient tumuli, and in none was it absent.

The length of the inter-parietal bone in a youth ten or twelve years of age, examined by Tschudi, was four inches at the base, and an inch and ten lines high; dimensions which sufficiently prove that this singular formation is not to be confounded with that of the small supernumerary bones, called *Wormeana*, which are sometimes found between the parietals; from these it is distinguished by largeness of size, regularity of form, and uniformity of shape and position; so that the interparietal bone is a true anomaly. It was first mentioned by Doctor Bellamy, and has since been examined by other observers.

It is a circumstance worthy of the attention of learned Anthropologists, that there is thus found in one section of the human race, a perpetual anomalous phenomenon which is wanting in all others, but which is characteristic of the ruminant and carnivorous animals.

I am aware that this is a subject too interesting and important to be discussed in the concluding paragraph of a sketch paper. Having relation to the great question of the unity of our species, I feel incompetent to subject it to scientific analysis and criticism, and merely mention it as one of the most interesting of many facts that fell under my observation during an extensive gallop through South America.

